

## REMARKS

### *Introductory remarks*

#### Supplemental Invention Disclosure Statement

A supplemental invention disclosure statement (IDS) and copies of the references cited therein are enclosed with the instant Amendment and Response. It is believed that the pending claims are patentably distinguishable over the references listed in the cited IDS, taken alone or in combination.

#### Status of the specification

The specification has been amended in several places. All amendments are supported in the specification, claims, and drawings as originally filed. No new matter has been added.

#### Status of the Claims:

Claims 1, 2, and 9-13 are hereby amended.

Claims 14-27 are hereby added.

The pending claims in the application are now claims 1-27, with claims, 1, 18, and 22 being in independent form. All of the amendments to the claims and the additional claims are supported throughout the specification, drawings, and claims as originally filed, and at least in Applicants' originally filed specification at least at pages 1, 4-5, and 8. No new matter has been added.

#### Rejection of Claims 1-13 under 35 U.S.C. 103(a)

Claims 1-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,478,228 to Ikefuji et al ("Ikefuji") in view of JP 11259620A ("JP reference").

The Office Action states that Ikefuji teaches a circuit card with a core, a bottom laminate layer, a top laminate layer, a circuit, and an antenna coil, that the JP reference teaches the use of polyolefin in circuit boards (including a polyolefin protective layer), and that a person of

ordinary skill in the art would be motivated to use the polyolefin of the JP reference as a laminate and/or core in the structure described in Ikefuji. Applicant respectfully contends, however, that” (1) a person skilled in the art would not be motivated to modify Ikefuji with the JP reference, and (2) even if Ikefuji were combined with the JP reference, the invention as recited in claims 1-13 (and also in newly added claims 14-27) would not be achieved, because this combination fails to teach or suggest all of the elements of the invention as claimed, even when modified as suggested by the Examiner.

First, it does not appear that either Ikefuji or the JP reference contains the necessary suggestion or motivation to combine all or part of the teachings of the two together. Indeed, there appears to be a teaching away from such a combination. The Ikefuji reference describes a structure in which an antenna coil and chip are contained within and attached to a “highly rigid ceramic frame” that itself is embedded in the layer of a core member (see, e.g., Abstract and col. 5, lines 19-44 of Ikefuji) of a card. Thus, in Ikefuji the antenna is internal to the card. This structure seems to be **incompatible to combine** with the module described in the JP reference, because the JP reference lists that the “use” of its disclosed IC module is “for IC cards connected to an antenna coil via an external terminal.”[Emphasis added]. There is no teaching or suggestion in either reference as to such a combination or modification. Further, Applicant does not believe that one skilled in the art would be motivated to modify Ikefuji to connect to an antenna that is external to the card, as doing so would completely change the principle of operation of Ikefuji and arguably would subject the antenna to further damage, which is completely contrary to the goals of Ikefuji discussed at col. 1, line 1 through col. 4, line 27.

The Office Action further states that the JP reference discloses “a card with a protective layer which may be made of polyolefin” and that “as seen in JP 11259620A the use of polyolefin in circuit cards is old and well known.” Applicant respectfully disagrees with this interpretation of the JP reference, and further notes that **claim 1 of Applicant’s application, as amended, does not require that the core and/or bottom layer must be made of polyolefin**. The JP reference never teaches or suggests a card or circuit card with a protective layer (or any other layer) of polyolefin; rather, the JP reference appears to discuss an integrated circuit module with a protective layer of polyolefin. It is not stated in the JP reference that the integrated circuit module is equivalent to a card, or even what type of “card” it is. Moreover, it is not possible to

tell merely from the English abstract of the JP reference whether the JP reference even relates to the same *type* or *application* of cards as referred to in the Ikefuji reference. Those skilled in the art appreciate that different types of IC cards may be subject to different environments, types of stresses, applications, etc., and that improvements to one type of IC card are not necessarily applicable or useful for another type of IC card. The Ikefuji reference appears to be directed towards cards such as credit cards, commutation ticket, railway tickets, etc. (see col. 8, lines 60-64 of Ikefuji). The English abstract of the JP reference, however, is silent about any teachings or suggestions that its disclosure has applicability to the type of cards described in Ikefuji.

In addition, the English title of the JP reference states that it describes an “IC module for IC cards”, which module has a “protective layer” covering its wiring portion, which protective layer is chosen from a “polyolefin group”, and that this “IC module” can be used “for IC cards connected to an antenna coil via an external terminal.” Thus, the JP reference is talking about a module used with IC cards, not the IC cards themselves. Applicant respectfully disagrees that one skilled in the art would be motivated to use protective layers covering wiring found on integrated circuit modules for the core and/or bottom layer of a card such as that described in Ikefuji.

Next, Applicant notes that the combination of Ikefuji and the JP reference, even as modified as suggested by the Examiner, does not teach each and every element of claim 1, as amended. Independent claim 1, as amended, recites:

An improved identification card comprising:

a core layer comprising a substantially non-rigid material, said core layer having a first side and a second side;

at least one antenna affixed to said first side of said core layer;

at least one integrated circuit chip electronically connected to said antenna; and

a bottom sheet comprising a substantially non-rigid material attached to said first side of said core by a first adhesive layer such that said antenna and said chip are encased between said core layer and said bottom sheet.

It appears that the Office Action suggests that the core and bottom laminate layer of Ikefuji provide the same structure as do the core and “bottom sheet” of claim 1 of Applicant’s application. The structure described in claim 1 above, however, is completely different from the

structure of Ikefuji or the JP reference, taken individually or in combination, even when modified as the Examiner suggests. First, claim 1 teaches a structure in which the core layer and its bottom sheet each comprise a substantially non-rigid material, and claim 1 further requires that the antenna and integrated circuit (IC) chip be encased between the core layer and the bottom sheet. Neither Ikefuji nor the JP reference teaches or suggests the use of a substantially non-rigid material for a core layer and/or bottom layer, as recited in claim 1. As noted previously, the JP reference does not discuss card structures at all. Ikefuji states that its core member can be made from a “synthetic resin” (col. 5, line 3), but is silent as to whether the synthetic resin is “substantially non-rigid”.

Furthermore, the core of Ikefuji, which contains an embedded highly rigid ceramic frame, is quite different than the core recited in claim 1, which core comprises a substantially non-rigid material. Use of the reinforced core of Ikefuji is intended to improve the “bending rigidity, torsion rigidity, and compression rigidity of the IC card 30 in the proximity of [the] ceramic frame” (col. 5, lines 19-23) and which “improves the rigidity of the card in the proximity of a circuit chip” (col. 2, lines 12-13). Thus, the structure of Ikefuji requires the card to have rigidity near its IC chip to protect the IC chip from stresses such as bending (see col. 1, line 52 through col. 3, line 4). In contrast, claim 1 discloses a **different** structure around its IC chip, one in which the IC chip is encased between a core layer comprising a substantially non-rigid material and a bottom sheet comprising a substantially non-rigid material.

The structure disclosed in claim further differs from that of Ikefuji in that Ikefuji teaches a structure in which its antenna coil and chip are contained within and attached to a “highly rigid ceramic frame” [emphasis added] that itself is embedded in the layer of core member (see, e.g., Abstract and col. 5, lines 19-44 of Ikefuji). Thus, in Ikefuji, both the antenna and IC chip are not encased between the core layer and the bottom sheet (as required by claim 1). Instead, the antenna and chip are surrounded by a reinforcing body (see col. 2, lines 30-35, and FIGS. 2, 4, and) that is embedded within the core itself. Moreover, the antenna of most embodiments of Ikefuji is attached to or formed on the ceramic reinforcing body and not to “a first side of the core layer”, as required by claim 1. Ikefuji discusses one embodiment where the coil is external to the ceramic frame (at col. 8 lines 22-23), but Ikefuji is silent about what the antenna is connected to. Thus, Ikefuji’s structure is quite different than that presented in claim 1, and

neither Ikefuji nor the JP reference teach nor suggest modifying the structure of Ikefuji to achieve the invention as recited in claim 1.

The Office Action admits that neither Ikefuji nor the JP reference disclose an "image surface". Applicant is not entirely sure what the Office Action is referring to by the term "image surface". If by "image surface" the Office Action is referring to the "image-receiving layer" discussed in claims 5 through 8, then Applicants concur that neither Ikefuji nor the JP reference teach or disclose this feature, especially in combination with the disclosed structure of claim 1.

For at least the above reasons, Applicants maintain that claim 1, as amended, and all rejected and newly added claims dependent therefrom (namely, claims 2-17) are patentably distinguishable over Ikefuji and the JP reference, taken alone or in combination, and are in a condition for allowance. Applicant thus respectfully requests that the rejection of these claims over the cited references be withdrawn.

Newly added independent claims 18 and 22 (and all claims dependent therefrom) are similar to claim 1 in that they disclose either a structure (or method of making a structure) that is simply not taught or suggested by the cited references, whether taken alone or in combination. Applicant thus respectfully maintains that these claims are in a condition for allowance.

#### Closing Remarks

The application as originally filed included 13 claims, of which claim 1 was in independent form. With this Amendment and Response, the number of claims pending in the application is 27 claims, of which claims 1, 18, and 22 are in independent form (seven claims in excess of the 20 covered by the filing fee). A fee for excess claims of \$126.00 is thus believed to be due. In addition, this Amendment and Response (along with the Supplemental Information Disclosure Statement) is being faxed to the Examiner's Technology Center on August 21, 2003; thus, Applicant hereby petitions for a one month extension of time (\$110.00). In addition, a supplemental Information Disclosure Statement (IDS) is accompanying this application; and a fee of \$180.00 is believed to be due because the IDS is being submitted after the first Office Action. Please charge the extension of time fee, the fee for excess claims, and the fee for submission of the IDS (total of \$416.00) to PTO Deposit Account No. 50-2535. A copy of a petition for extension of time and a fee transmittal are enclosed.

Applicants believe that all pending claims are patentably distinguishable over the art of record and are in a condition for allowance. Favorable consideration and an early notice of allowance are hereby respectfully requested. Should the Examiner have any questions, he is invited to contact the undersigned at 781-744-6404.

Date: August 22, 2003

Digimarc Corporation  
19801 SW 72<sup>nd</sup> Avenue, Suite 250  
Tualatin, OR 97062

Telephone: 781-744-6404  
FAX: 503-885-9880  
Alternate FAX: 781-744-6741

Respectfully submitted,

DIGIMARC CORPORATION

By



Marianne McLaughlin Downing  
Registration No.42,870